

# PATENT COOPERATION TREATY

From the  
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To:

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**BERGGREN OY AB**

**30-04-2004**

*TKO:KPE*

## PCT

WRITTEN OPINION OF THE  
INTERNATIONAL PRELIMINARY  
EXAMINING AUTHORITY

(PCT Rule 66)

*FR. 26. 6. 2004 ✓*

Date of mailing (day/month/year) **27-04-2004**

Applicant's or agent's file reference  
**BP105981**

**REPLY DUE** within 60 days from  
the above date of mailing

International application No.  
**PCT/FI2003/000370**

International filing date (day/month/year)  
**14.05.2003**

Priority date (day/month/year)  
**31.05.2002**

International Patent Classification (IPC) or both national classification and IPC  
**H04Q 7/38, H04B 7/00**

Applicant  
**Nokia Corporation et al**

1. ☐ The written opinion established by the International Searching Authority:  
☐ is ☐ is not  
considered to be a written opinion of the International Preliminary Examining Authority.
2. This first (first, etc.) opinion contains indications relating to the following items:
  - ☒ Box No. I Basis of the opinion
  - ☐ Box No. II Priority
  - ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
  - ☐ Box No. IV Lack of unity of invention
  - ☒ Box No. V Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
  - ☐ Box No. VI Certain documents cited
  - ☐ Box No. VII Certain defects in the international application
  - ☐ Box No. VIII Certain observations on the international application
3. The applicant is hereby invited to reply to this opinion.

**When?** See the time limit indicated above. The applicant may, before the expiration of that time limit, request this Authority to grant an extension, see Rule 66.2(e).

**How?** By submitting a written reply, accompanied, where appropriate, by amendments, according to Rule 66.3. For the form and the language of the amendments, see Rules 66.8 and 66.9.

**Also** For the examiner's obligation to consider amendments and/or arguments, see Rule 66.4bis. For an informal communication with the examiner, see Rule 66.6. For an additional opportunity to submit amendments, see Rule 66.4.

If no reply is filed, the international preliminary examination report will be established on the basis of this opinion.
4. The final date by which the international preliminary report on patentability (Chapter II of the PCT) must be established according to Rule 69.2 is: 31.09.2004

Name and mailing address of the IPEA/SE  
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Authorized officer

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WRITTEN OPINION OF THE  
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

International application No.

PCT/FI2003/000370

Box No. I Basis of the opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ This opinion is based on a translation from the original language into the following language \_\_\_\_\_, which is the language of a translation furnished for the purposes of:

- ☐ international search (under Rules 12.3 and 23.1(b))  
☐ publication of the international application (under Rule 12.4)  
☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the elements of the international application, this opinion has been established on the basis of *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this opinion as "originally filed.")*:

☒ the international application as originally filed/furnished

☐ the description:

pages \_\_\_\_\_ as originally filed/furnished

pages \_\_\_\_\_ received by this Authority on \_\_\_\_\_

pages \_\_\_\_\_ received by this Authority on \_\_\_\_\_

☐ the claims:

pages \_\_\_\_\_ as originally filed/furnished

pages \_\_\_\_\_ as amended (together with any statement) under Article 19

pages \_\_\_\_\_ received by this Authority on \_\_\_\_\_

pages \_\_\_\_\_ received by this Authority on \_\_\_\_\_

☐ the drawings:

pages \_\_\_\_\_ as originally filed/furnished

pages \_\_\_\_\_ received by this Authority on \_\_\_\_\_

pages \_\_\_\_\_ received by this Authority on \_\_\_\_\_

☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

☐ the description, pages \_\_\_\_\_

☐ the claims, Nos. \_\_\_\_\_

☐ the drawings, sheets/figs \_\_\_\_\_

☐ the sequence listing (*specify*): \_\_\_\_\_

☐ any table(s) related to the sequence listing (*specify*): \_\_\_\_\_

4. ☐ This opinion has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

☐ the description, pages \_\_\_\_\_

☐ the claims, Nos. \_\_\_\_\_

☐ the drawings, sheets/figs \_\_\_\_\_

☐ the sequence listing (*specify*): \_\_\_\_\_

☐ any table(s) related to the sequence listing (*specify*): \_\_\_\_\_

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Box No. V Reasoned statement under Rule 66.2(a)(II) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	<u>1, 25-26, 28</u>
	Claims	
Inventive step (IS)	Claims	<u>1-28</u>
	Claims	
Industrial applicability (IA)	Claims	
	Claims	

2. Citations and explanations:

Documents cited in the International Search Report:

D1: WO 0131958 A1  
D2: US 2001008521 A1  
D3: EP 0 984 581 A1  
D4: US 2002027890 A1  
D5: EP 0946076 A2  
D6: US 6385437 B1  
D7: GB 2314734 A

D1 describes a method for performing a transition from a continuous communication mode into a combined slotted communication mode and measurement mode in a mobile station of a cellular radio system, comprising the steps of: providing a set of certain criteria to be observed during the continuous communication mode; wherein the step of providing a set of criteria comprises the sub step of providing a criterion which is fulfilled if a base station of the cellular radio system seems to be not responding to power control commands asking for more downlink power while preparations for an inter-cell handover are not in progress; observing, whether at least one of said criteria is fulfilled during the continuous communication mode; and as a response to the fulfilment of at least one of said criteria is fulfilled during the continuous communication mode, changing the operation of the mobile station into the combined slotted communication mode and measurement mode, wherein the step of observing, whether at least one of said criteria is fulfilled during the continuous communication mode, comprises the sub step of observing, whether or not a serving base station is responding to a number of successive power control commands asking for more downlink power, ( pages 1-4).

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Supplemental Box

In case the space in any of the preceding boxes is not sufficient.  
Continuation of: BOX V

D2 describes a method for preparing an interfrequency handover of a certain communication connection from a first frequency to a second frequency, the method comprising the following steps of: periodically intermitting the transmission/receipt of data on the first frequency for certain transmission gaps, where the number of transmission gaps is at least one during each transmission period, a certain sequence of transmission periods is used, and at least one transmission period has a transmission gap having a first duration and a second transmission gap having a second duration, which second duration is different from the first duration, and performing measurements on the second frequency during the transmission gaps on the first frequency. Adequate number of synchronization symbols can be transmitted periodically even when there is increase in transmission power, (page 1 part 1 - page 7 part 77).

D3 describes a method for controlling interfrequency handover (=handover between different frequencies) of a mobile station, the mobile station comprising communication, slotted (= compressed), and measurement mode. The mobile station Changes the operation into the combined slotted communication mode and measurement mode for preparing an interfrequency handover, (column 28 parts 138). By establishing the synchronization with another frequency carrier based on detected first and second search codes, interfrequency handover is carried out, and by establishing the synchronization with GSM based on the detected FCCH and SCH, inter communication system handover is carried out. In the transmission in the compressed mode, non-transmission timing is provided in the downlink frame, and can be set to a desired period of time (duration). This non-transmission timing represents idle period during which the strength (= power) of the other frequency carrier is measured. In this way, slotted transmission can be achieved by inserting the idle period during transmission of compressed mode frames. in the compressed mode, the same transmission power as in the normal mode is used to intermittently transmit a compressed frame at a lower transmission rate than in the normal mode; therefore, during a handover between frequencies, the amount of interference power to other users on the same frequency is reduced, whereby a handover between frequencies with reduced interference can be achieved. (Column 3, part 16 - column 19, part 95).

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Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of: BOX V

D4 or D5 describe A method of controlling a frequency handover in a wireless communication system in which a mobile station communicates with one or more base stations, the method comprising the steps of: generating a trigger metric as a function of a measure of receive power at the mobile station; and utilizing the trigger metric to control a handoff from a current frequency to a new frequency in an ongoing call, wherein the handoff is performed without utilizing any signal-to-noise measures for pilot signals at the new frequency, (D5 column 2 part 5 - column 3 part 8).

D6 describes a power control method for a mobile station having transmission frames, at least one compressed mode transmission frame including a transmission duration when data is transmitted on a first frequency, and a transmission-off duration for searching another frequency in order to perform an inter-frequency handover, the transmission duration having increased transmission power, the method comprising the steps of: resetting, in a base station, a power control threshold depending on a length of the transmission-off duration; and receiving, in the base station, transmission power-increased data; comparing a power of a received signal with the power control threshold; generating a power-up command when the power control threshold is higher than the received signal power; and generating a power-down command when the power control threshold is lower than the received signal power, (column 4 lines 27 - 61).

The invention according to claims 1, 25-26 and 28 is not novel with respect to D1 or D3.

Dependent claims 2-24 and 27 do not appear to contain any additional features which, in combination with the features of any claim to which they refer, involve an inventive step, since said features fall within the scope of the customary practice followed by persons skilled in the art. A person skilled in the art would try to combine the principle parts of D1 or D3 with the closest prior art D2 to obtain the features of claims 2-24 and 27 and have a reasonable expectation of success. The solution proposed in claims 2-24 and 27 of the present application cannot be considered as involving an inventive step. Consequently, the invention according to the claims 2-24 and 27 lacks an inventive step.

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Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of: BOX V

Therefore, the invention according to claims 1-17 lacks an inventive step.

D7 describes the prior art of the invention.